This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A switching apparatus, comprising:

at least one multicast source queue for storing blocks of data, each block including at least a multicast payload;

at least one switch operatively connected to said multicast source queue, said at least one switch including at least a scheduler that schedules granting of multicast requests; and

a plurality of destination queues operatively connected to said at least one switch, said destination queues receiving, via said at least one switch, at least the multicast payload for the multicast requests that that have been granted by said scheduler,

wherein, when issued to the scheduler, each of the multicast requests operates to request switching the associated multicast payloads through said at least one switch to particular ones of said destination queues,

wherein said at least one switch simultaneously delivers the associated multicast payload to a plurality of said destination queues, and

wherein each of the multicast requests are issued in advance of sending the associated multicast payloads to said at least one switch, and only after a particular multicast request is at least partially granted does the associated multicast payload get transmitted from the associated multicast source queue to said at least one switch.

2. (Cancelled).

3. (Original) A switching apparatus as recited in claim 1, wherein when the particular multicast request is at least partially granted by said scheduler, a grant is provided to the associated multicast source queue.

4. (Original) A switching apparatus as recited in claim 3, wherein the grant indicates a set of said destination queues that are scheduled to simultaneously receive the associated multicast payload.

5. (Original) A switching apparatus as recited in claim 4, wherein the grant is temporarily stored at said at least one switch for subsequent use in configuring said at least one switch to deliver the associated multicast payload to the set of said destination queues.

6. (Original) A switching apparatus as recited in claim 1, wherein the associated multicast payload is sent to said at least one switch from the associated multicast source queue only once for each of the multicast requests that have been granted, yet is simultaneously delivered to a plurality of said destination queues.

7. (Original) A switching apparatus as recited in claim 1, wherein said multicast source queue is a virtual queue, and wherein said destination queues are virtual queues.

8. (Original) A method for multicasting data held in a sending virtual queue through a switching apparatus to receiving virtual queues, said method comprising:

sending a multicast request from the sending virtual queue to the switching apparatus, the multicast request requesting to transfer a common payload of data to a plurality of the receiving virtual queues;

subsequently sending the common payload of data from the sending queue to the switching apparatus after the sending queue receives notification that the multicast request has been at least partially granted;

configuring the switching apparatus for the multicast request; and

thereafter concurrently transmitting the common payload of data through the configured switching apparatus to a plurality of the receiving virtual queues.

9. (Original) A method as recited in claim 8, wherein a grant is produced when the multicast request has been at least partially granted, and

wherein said configuring of the switching apparatus is in accordance with the grant.


10. (Original) A method as recited in claim 8, wherein said sending operates to send the multicast request to the switching apparatus only once and to send the common payload of data from the sending queue to the switching apparatus only once, unless the multicast request is initially not completely granted.


11. (Original) A method as recited in claim 8,

wherein the multicast request requests to transfer the common payload of data to N of the receiving virtual queues, where N is an integer, and

wherein said sending operates to send the multicast request from the sending virtual queue to the switching apparatus substantially less than N times and to send the common payload of data from the sending virtual queue to the switching apparatus less than N times.


12. (Original) A method as recited in claim 8, whereby the common payload data is sent to the switching apparatus after the associated multicast request has been at least partially granted such that the switching apparatus need not store the common payload data while awaiting at least partial granting of the multicast request.


13. (Original) A method for multicasting data held in a sending virtual queue through a switching apparatus to receiving virtual queues, said method comprising:

sending a multicast request to the switching apparatus, the multicast request requesting to transfer a common payload of data to a plurality of the receiving virtual queues;

scheduling a grant of the multicast request to at least a certain plurality of the receiving virtual queues;

saving the grant at the switching apparatus;

sending the grant from the switching apparatus to the sending virtual queue;

sending the common payload of data from the sending virtual queue to the switching apparatus after the sending virtual queue receives the grant from the switching apparatus;

configuring the switching apparatus in accordance with the saved grant; and

thereafter concurrently transmitting the common payload data from the switching apparatus to each of the certain plurality of the receiving virtual queues.

14. (Original) A method as recited in claim 13, wherein duplication of the payload data occurs in the switching apparatus.

15. (Original) A method as recited in claim 13, wherein said configuring occurs when the switching apparatus receives the common payload data.

16. (Original) A method as recited in claim 13, wherein only a single multicast request is required to send the common payload data to the certain plurality of the receiving virtual queues.

17. (Original) A method as recited in claim 13, wherein the switching apparatus comprises a scheduler and a switching device.

18. (Original) A method as recited in claim 13, wherein, for the multicast request, the common payload data is sent only once from the sending queue to the switching apparatus.

19. (Original) A method as recited in claim 13, wherein, more than half the time, a given multicast request is sent only once from the sending virtual queue to the switching apparatus.

20. (Original) A method as recited in claim 13,

wherein the multicast request serves to send the common payload data to N of the receiving virtual queues, where N is an integer, and

wherein, on average, a given multicast request is sent substantially less than N times from the sending virtual queue to the switching apparatus.

21. (Original) A method as recited in claim 13, wherein the grant includes a grant bitmap, and

wherein said sending of the common payload of data from the sending queue to the switching apparatus operates in accordance with the grant bitmap.

22. (Currently Amended) A method for multicasting data held in a sending virtual queue through a switching apparatus to receiving virtual queues, said method comprising:

receiving a multicast request to the switching apparatus, the multicast request requesting to transfer a common payload of data from the sending virtual queue to a plurality of the receiving virtual queues;

scheduling a grant of the multicast request to at least a certain plurality of the receiving virtual queues;

saving the grant at the switching apparatus; and

sending the grant from the switching apparatus to the sending virtual queue;

receiving the common payload of data at the switching apparatus from the sending virtual queue;

configuring the switching apparatus in accordance with the saved grant; and

thereafter concurrently transmitting the common payload data from the switching apparatus to each of the certain plurality of the receiving virtual queues.

23. (Cancelled).

24. (Currently Amended) A method as recited in claim 22 claim 23, wherein said method further comprises:

discarding the saved grant following during or after said transmitting of the common payload data.

25. (Currently Amended) A method as recited in <u>claim 22</u> ~~claim 23~~, wherein the saved grant comprises a grant bitmap.